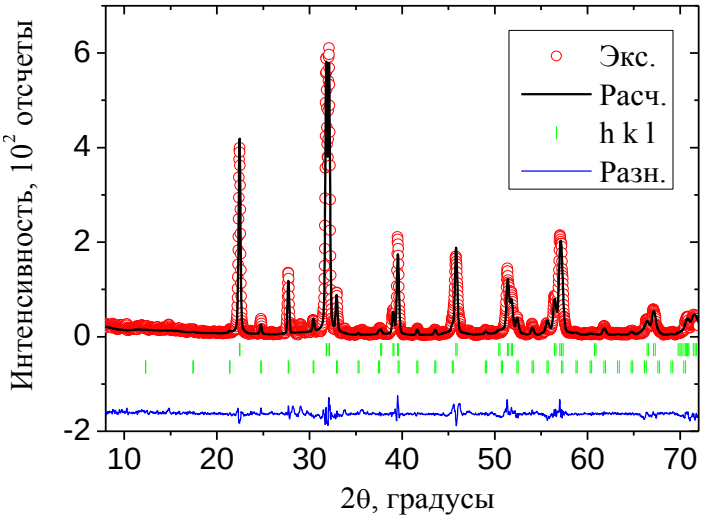

Рис. 1. Рентгенограмма соединения $BiFe_{0,95}Mn_{0,05}O_3$

Измерения магнитных свойств проводились на вибрационном магнитометре. Получена температурная зависимость магнитной воспримчивости на нагрев в магнитном поле $\pm 1кЭ$ в дипазоне от $300K$ до $800K$, с шагом $20K$. С ростом температуры магнитный момент уменьшается, по закону присущему фазовому переходу второго рода. Намагниченность исчезает при $760K$. Полевая зависимость измерена при комнатной температуре в диапазоне $\pm 17кЭ$ имеет гистерезисное поведение. Коэрцетивная сила составляет $90Э$, остаточная намагниченность равняется $2{,}8 \cdot 10^{-3} эрг/Гс$, намагниченность насышения $17{,}2 \cdot 10^{-3} эрг/Гс$.

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AEROSOL CHARACTERIZATION IN EGYPT URBAN AND RURAL MEASUREMENTS

Mostafa M.Y.A.*, Nazmy H., Moustafa M., Mohamed A.

[1)] Department of Physics, Minia University, El-Minia, Egypt
[2)] Ural Federal University, Mira Street 19, 620002 Yekaterinburg, Russia
E-mail: mostafa_85@mail.ru; mostafa.youness@mu.edu.eg

Characterization of the size distribution of airborne particulate matter, atmospheric aerosols, is valuable and represents an important key for the assessment of air quality and human health. Moreover, aerosol composition and, in particular, the size differentiated composition may provide information in sources responsible for the airborne particles[1].

The objectives of this study were to examine the size distribution of aerosol particles as well as the investigation of the elemental composition of Particulate Matter (PM) in rural and urban areas in El-Minia governorate, Upper Egypt. Low pressure Berner cascade impactor was used to collect aerosol particles in different size range (cutoff diameter 0.08-6 μm). Seven elements were investigated (Ca, Ba, Fe, K, Cu, Mn and Pb) using atomic absorption technique. Elemental mass size distributions (Pb, Mn, Fe, Cu, K, Ca and Ba) at both sites were presented. These were founded as a bimodal log normal mass size distribution corresponding to accumulation and coarse modes. Average mass concentrations of different elements at rural and urban sites also were represented.

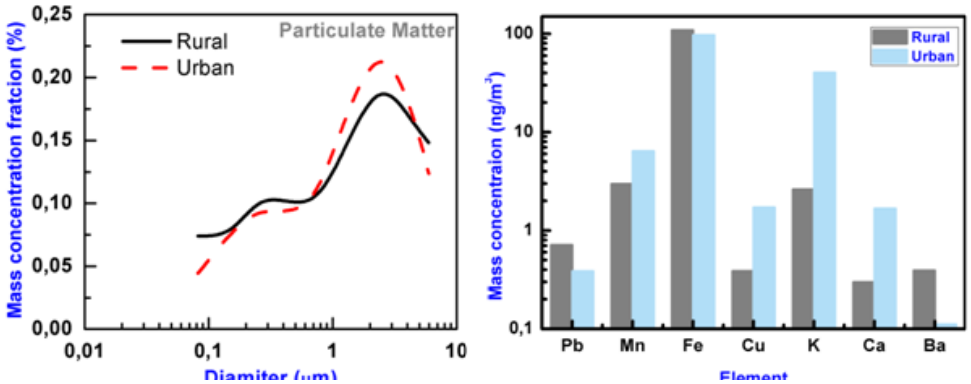

Fig. 1. Average PM size distributions and elemental mass concentration of aerosol particles at rural and urban sites

1. Ellouz, F.; Masmoudi, M.; Quisefit, J.P.; Medhioub K. Phys Chem Earth. **2013**, 55, 35-42.

HPGE-DETECTOR AS THE BASE OF RADON CONCENTRATION STANDARD SOURCE

Mostafa M.Y.A.*, Vasyanovich M.

[1]Ural Federal University, Ekaterinburg, Russia
[2]Department of Physics, Minia University, El-Minia, Egypt
E-mail: Mostafa_85@mail.ru

The purpose of this work is to introduce a simple and accurate system for calibrating radon measurement devices for monitoring the activity concentration of ^{222}Rn in air. A high-purity germanium (HPGe) detector connected with ^{226}Ra solid source to produce this simple prototype calibration system. A small emanation box was mounted on the HPGe detector for online gamma measurements. Inside this box, a solid ^{226}Ra standard source was placed.